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The Music Library - Physical Considerations

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Introduction

Librarians who have crusaded in recent years for a broadening of the scope of library materials and activities, have seen many of their dreams justified in the past decade and a half as libraries throughout the country have developed work and facilities in the audio-visual field. So far has the logical association of the library and audio-visual education become realized that one authority has said: "It is an accepted fact now that school libraries ought to provide facilities for the use of movies, slides, and phonograph records. The Committee on Planning School Library Quarters, of the American Association of School Librarians, has recently stated what is required in the way of building facilities."(1)

Although much has been written about all phases of audio-visual aids, it seems advisable to summarize to date the findings regarding music in the library, especially with reference to recorded music. This study chooses to limit itself to physical problems encountered in maintaining a music collection, not ignoring the importance of selection and cataloging.

Although the presence of musical scores in the library is not a new situation, the presence and use of recorded music is relatively recent, both as to use in the library and circulation outside the library. Among the earliest circulating record collections was that of the City Library of Springfield, Mass., in 1923.(2) Since that date and especially beginning in the 1930's with the assistance of the Carnegie Corporation, record collections have become popular in libraries of all types. There are many examples of the phenomenal success which has greeted these ventures. Outstanding but not unique was Princeton University, which in 1946 with 6000 records, was circulating 20,000 a year.(3) It is unfortunate that in spite of such success stories as this, not all is well in music libraries. In a report published by Evelyn Perkins in January of this year, she stated that "of the recently established libraries many were in a state of transition."(4)

Before proceeding to a discussion of specific problems in handling music, it may be interesting to note that England surpasses this country in the library circulation of records. As a matter of fact, there has been considerable material published in England -- and in Germany -- regarding the use of music libraries.

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The Music Room

Local circumstances will determine the setting for the music library. If need be, it can be part of the general reading room, the scores and records being shelved with other books, and the recordings used on a portable phonograph which has earphone attachments. Such a restricted situation is not at all uncommon, nor even necessarily undesirable.

It is good, however, if separate quarters can be found. Many librarians have demonstrated their resourcefulness in acquiring a separate music room. A large closet off the main reading room can be equipped with a table, chairs, and a phonograph, giving the public a simple but comfortable listening room. Or one end of the reading room can be walled off with wainscoting and glass.

Ideally, of course, the library has a room specifically planned as a music room. A number of possibilities present themselves regarding furnishings and equipment. It should be provided with comfortable chairs and with tables informally arranged. If it is in every sense a music room, the following should be found there: books useful to students of music, music scores and sheet music, recordings, and sound equipment. Books include musical dictionaries, encyclopedias, histories and analytical works; periodicals should also be included. The extent of reference materials will depend upon the type of library and the needs of the students and faculty if it is a school library of any kind.

A listening room calls for a truck which has vertical compartments for records; it can serve as a reserve shelf. Reserve shelves for the scores corresponding to the music of the records should be provided. A fully equipped music room also contains a piano.(5)

Any music room which contains sound equipment, with the exception of earphone players, will be faced with the problem of keeping the sound from disturbing readers in other parts of the library. A room can be made reasonably soundproof by means of any number of commercial porous materials, such as Masonite, which will absorb sound. Another sound-proofing agent is a double thickness of glass with an air space between.

To be considered also is the effect of the room upon the quality of the music transmitted. Music needs good reverberation surfaces, which would seem to be in conflict with the use of porous materials for soundproofing. RCA has obtained a good balance by using flats, curved ceiling areas of plaster, and battleship linoleum on the floor for reverberation, and draperies for sound absorption.(6) After making many experiments in the field of acoustics and soundproofing, experts have this to say: "We do not believe that we can say with any absolute conviction that a studio must be exactly this size, this shape, and be constructed of precisely this or that material."(7)

The above discussion presupposes use of the music room for performing musicians or for group listening to sound equipment. Where listening is to be on an individual basis, the listening booth is a solution, though it presents its own problems. The listening booth is an innovation for most libraries; but it has been carefully worked out by music stores, where it is essential to keep the sound from the rest of the store while, at the same time, giving good supervision over booths. Although it is difficult to obtain specifications for booths unless there are definite plans for building, the listening booth has become so common in music stores that important conclusions regarding them are easily reached. As a matter

of fact, booths can be ordered ready-made from the A. Bitter Construction Co., 721 E. 133rd Street, New York 54. There are those who feel that proportions are of no importance, that the only thing that really matters is to prevent the sounds coming from the booth. Lining material should not be used on the inside because it would deaden the sound for the listener. Rather, hard or medium wall board should be used in the panelling.(8)

As has been suggested above, sound insulation is of prime importance. This has been achieved chiefly by the use of a double thickness of glass. However, there are more details to consider. Felt jamb stops, all glass set in felt, treatment of inside ventilating ducts to prevent piping of sound between booths, and in some cases sliding doors to conserve space have been other features of booths. Most of these features in addition to double thicknesses of celotex throughout and a celotex lined ceiling, were used by Morrow and Morrow for the Wilson Record Library in San Francisco. Their conclusion was that the cost of complete sound-proofing would have been prohibitive. "A person in silence can hear sounds through the partition. But (a) while playing records in a booth, one is not conscious of playing going on in adjoining booths; and (b) while conversing in the public space, one is not aware of playing going on in any or all booths,"(9)

Philip L. Miller, record critic of the Library Journal, has these further comments to make regarding the listening booth. Good ventilation or, if possible, air conditioning is essential. One finds, however, that some stores find sufficient ventilation gained by keeping the door open while the booth is not in use. If the booth is to serve its full usefulness, it should be provided with a table so that musical scores can be spread out to be studied as the patron listens. The table is also needed as a resting place for records. He further recommends that the machine be so placed that the speaker will be slightly higher than ear level. This would almost demand the use of a 2-unit machine.(10)

Before leaving this discussion of the music room, attention should be called to the need for plenty of electric outlets conveniently placed about the room to permit free use of playing equipment.

Scores and Sheet Music

A music library contains two types of printed music -- scores and sheet music. Regarding the former there is pretty general agreement that it should be bound, this making it possible to shelve music and books together in libraries where there is no separate music room.

Heavy pamphlet binders with pockets inside the covers for parts, or cloth-covered, board portfolios with pockets have been used successfully. McColvin and Reeves represent the careful English point of view in recommending substantial cloth and leather bindings. They allow considerable freedom of choice in the manner in which the scores are to be bound, except that "the title must appear on the spine."(11) Advice comes from the Sibley Music Library, University of Rochester, that in binding music, care should be exercised that the back be flexible and the pages be allowed to open flat.(12)

Sheet music is kept in a file or in a regular music file box and issued separately in manila envelopes. McColvin and Reeves suggest sewing sheet music into stout manila covers, which "will stand plenty of wear and are easily replaced."(13)

Shelving for music should generally be slightly wider than that used for books. Where large folios, such as the complete works of composers, are to be shelved, it is advisable to use supports about 6" apart to keep the material in place and to protect the bindings. Separate shelving for miniature scores is a rather usual practise, because they are too easily lost when placed among larger scores. A similar treatment is likewise accorded complete works and historical and monumental editions. Indication of this separate shelving is made in the catalog.(14)

Phonograph Records

A field of selection which, considering its recency and scope, is a worthy rival of book selection is that of phonograph records. So well established have discs become in library thinking, that such outstanding periodicals as Library Journal and Saturday Review of Literature have included record reviews as a regular feature. Recordings can be of many types: music, drama, poetry, speeches and addresses, and language study, serving thus for recreation and as valuable means of assisting classwork in a variety of subject fields. They can also present a means of adding to college archives by recording convocation addresses, special broadcasts of the college, and the many phases of campus activity.

Physical problems encountered in the housing of records include care of the records themselves, their storage, circulation, and consideration of the types of discs available.

Most libraries use a brush, preferably velvet, to keep the discs free of dust. Most libraries, also, have a careful system of examining records before and after circulation to watch for scratches, digs or rubs; these are often recorded on the record pocket to help determine the point at which a disc is beyond its usefulness. As a result of these measures and of proper storage, and considering the inevitable margin of breakage, which most libraries report to be amazingly small, it is estimated that the life expectancy of a record varies up to 123 circulations.(15)

Affelder makes these suggestions regarding record care. Records should be handled by the edges because repeated handling of the surfaces will result in a gritty or "swishy" sound to the record. Warped records can be made flat by exposing them to the direct sun for a few minutes and then pressing them under weight on a very flat surface. Artificial heat should not be used because it is too great. Playing cracked records can injure both needle and pickup. New records should be carefully examined, both for appearance and sound, and should be replaced if not perfect.(16)

Practise varies regarding broken albums and worn out records. Some libraries replace broken records which are parts of albums; others retire the albums to storage in the stacks. Some retire also worn out records, feeling that they may be useful at least to an occasional borrower; others sell them at auction.

There is no absolute uniformity in record storage. There are, however, two general precautions -- (1) that records should be stored vertically to prevent warping, and (2) that they should be kept away from great heat. One authority says, "Be sure not to place the discs too close to a fire or radiator and be careful not to expose them to the sun."(17)

About the only thing that can be said for horizontal storage is that damp or extremely hot climates encourage warping where vertical storage is used. Disadvantages are the fairly obvious ones of need for large amount of storage space, weight on the lower records, and difficulty of extracting and inserting records.

To prevent warping in vertical storage it is necessary to place records so that they will fit snugly. This implies division of the shelf by partitions. For single records the partitions are spaced not more than 3" apart, and in some libraries as little as 1-1/2". For albums the spacing ranges from 5" to 7". In any case the front edges of the partitions should not be flush with the edge of the shelf; this would make it difficult to extract the desired records.

There is variation in practise regarding open and closed cases, some using open wooden cases, others steel cabinets, and others housing their records behind glass doors.

Miller advises against using sections more than five shelves high. Nor should the shelves be too long, because one square foot of records weighs 67 pounds and either wood or metal shelves are apt to buckle.(18)

Quoting Miller, "For those who can afford them, such record cabinets as are now in use at Vassar College, in the Philadelphia Free Library, and in the Curtis Institute can be recommended. These contain horizontal drawers which drop to a vertical position when pulled out. Such cabinets, however, are bulky and expensive."(19) Miller does not very much favor such devices as felted drawers or vertical files, although these are used occasionally.

Use of albums varies all the way from their complete discarding to storage of all records in albums. Miller disapproves of the use of albums for storage, except for those records which come in sets, such as symphonies, for the reason that it results in much wasted space.(20) Those libraries which use no albums keep their discs in heavy envelopes, carefully labeled.

Although records are frequently kept on open shelves, it seems to be the opinion of many that patrons should not be allowed to handle them, not even the albums. They justify this opinion by saying that a good catalog makes browsing unnecessary and that in handling there is too great danger of breakage.

At one point administration and physical planning overlap, namely, in the arrangement. Although the system of classification used does not under ordinary circumstances affect too greatly the original plans for a library, it does merit consideration in a record collection where an unwise choice of arrangement scheme may involve considerable work to maintain. To avoid the necessity of much later shifting, records should be shelved in the order of their accession. Miller recommends separation of 10" from 12" records, and separate shelving also of albums.(21) Many libraries, however, do not follow his recommendation, some arranging records by composer and occasionally by title, and others using the Dewey Classification to harmonize with the book collection.

As one reads the reports of libraries throughout the country, he observes the almost consistent use of heavy envelopes for circulating records, the most frequently mentioned being a heavy rope manila or a red fiber envelope. Some libraries issue sets intact and use a rubber band to keep the records from slipping out; others issue single records and albums in heavy canvas bags with handles stitched at the top. The cardboards which come in the albums are useful for giving padding in circulation. Victor and Decca ship their albums packed in cardboard which folds over the tops and bottoms of the records; they should be made use of.

Very good commercial carrying cases are the Recobin portable case and the less expensive Gaylord cover.

Until fairly recently one selecting phonograph records was concerned chiefly with the subject matter cut on the record, accepting the fact that a disc was either 10" or 12" and was made by one or another reputable company. In the past couple of years we have entered upon a period of transition in the record industry, a period whose end and effect we cannot yet foresee. Both size and material are in a state of flux. The seriousness of the situation lies in the choice and possible outmoding of expensive playing equipment.

The usual disc is of wax covered with shellac. In the past couple of years plastic discs have become very popular. The fact that they are not fragile as wax discs are would seem to recommend them highly where there is to be heavy use by the public. Not only are they safer from breakage, but they also are said to give less surface noise. Librarians are warned, however, that plastics should be used only on players having a very light pickup. This is a very important consideration in circulating collections, when one realizes that homes have all types of players, many having very heavy pickups. In the long run deterioration of the soft surface may far outweigh the margin of breakage sustained in the shellac surfaced records.

Another innovation is the long-playing record. The usual 10" or 12" disc is cut to play at 78 RPM and to play 3-1/2 and 4-1/2 minutes. The new vinylite Columbia LP records come in the same 10" and 12" sizes, play 12-1/2 and 22-1/2 minutes, and require a reduction in the turntable speed to 33-1/3 RPM. Obviously this sounds like good news from the point of view of storage. But problems arise in regard to adjusting use of the LP discs to standard turntables and quite definitely in regard to the pickups. The same turntable can be used by means of a device to reduce the speed. The same thing can be done with a changer by the use of two drive wheels.

Increasing the amount of music without increasing the size means cutting of much finer grooves. Satisfactory playing can be done only by using a very light pickup, which requires more than ordinary care in handling. It is certainly essential that the turntable be level. Even so it is charged that the pickup too often jumps back on the LP record.

Another departure in disc making is the RCA Victor 6-7/8 inch, 45 RPM, wafer-thin vinylite disc, which made its official appearance this spring. As this record was being demonstrated, Columbia announced a 7" microgroove disc equal in playing time to a 12" standard record. Wide adoption of such discs will, like the LP records, demand a number of adjustments in playing equipment, both for turntable speed and the necessarily fine pickup weight.

Especially important to the library is the possibility of reduction in storage space allowed by these new miniatures if they prove successful. Either type, singly or in albums, will occupy no more space than an average 7" book. Dealers who have experimented with the RCA miniature say that they can be stored horizontally or vertically, for warping does not seem to interfere with playing unless it is extreme, in which case the disc can be bent back into shape without difficulty. Some say that the pickup does not seem to jump as with the LP disc, but this is a disputed point. Worth noting is the fact that the center section is thicker, preventing surfaces from touching and becoming marred.

Consumers' Research Bulletin for June, 1949, reports that the Victor miniatures, because of rumble and hum problems and because of a limited dynamic range, offer little or no advantage over the 78 RPM and the LP records. From the library point of view the necessity of introducing a third playing speed into the player might well cause hesitation in buying them for the library. It should not be overlooked, however, that over a period of time considerable saving can be made in the purchase cost, since they are cheaper.

Sound Equipment

As with any mechanical equipment choice of a player should be made only after a very careful study and comparison of all available merchandise. Because of the expense involved, because of the disappointment to all concerned if a mistake is made, one cannot afford to select blindly nor in haste. Nor is it a simple matter of going from dealer to dealer, listening, and weighing one machine against another. For the most satisfactory phonographs are frequently custom built, the investment being in the mechanism, not in the housing.

Audience tests have led to the conclusion that any player for hall use should be equipped with remote control, a thing lacking in standard commercial machines, and should be operated from the back of the room.

Mirko Panoyko and Morton Lee are highly recommended as builders of fine machines for hall use. The latter has perfected a successful finding device for locating desired passages of music. Somewhat different is the Sandwich-Bowen DS-1 combination portable dual speed Reproducer and Public Address unit, which is suitable for use in an auditorium, small listening room or in the open air.

Lack of space forbids a further discussion of recommended commercially or custom built players. Before making any purchase, the librarian will do well to consult the Philip L. Miller reports in Library Journal and various issues of Consumers' Research Bulletin.

The same advice applies to parts of the player. Suffice it here to call attention to those parts with which the prospective purchaser should be familiar. The pickup, that part of the tone arm which contains the needle, ranges from the inexpensive crystal pickup at \$2 or \$3 to the magnetic pickup which may run into several hundred dollars. A modern pickup has a semi-permanent needle or a permanent jewel needle, the latter usually sapphire. A sapphire needle is very hard and great caution must be exercised in its use since it can injure a plastic record; it must be used in a very light weight pickup. Non-permanent needles can be made of metal or cactus. There is some difference of opinion about cactus; it wears down rapidly and must be sharpened often. Some feel that its softness is detrimental to the grooves of the record because it wears off unevenly. Metal needles are apt to give surface noise, but are otherwise acceptable if changed often enough. Of all metal still, that with a straight, wide shank and narrow point is considered best.

Turntable and motor should be carefully chosen for even speed and freedom from rumble. Three-speed turntables are now being made to take care of the various types of records.

Speakers are available in many sizes, shapes, prices and variations in quality. They fall into two general categories. One is the type generally used in radio receivers, consisting of a single unit, which must reproduce all frequencies of sound. The other consists of two units, each reproducing a limited range of sound. The latter is more expensive but is worth it. Jensen, Altec Lansing, and Magnavox make speakers which are well liked, providing a wide range in frequencies and serving halls seating several hundred listeners.

Regarding the use of record changers in the library there is some difference of opinion. Although their convenience is generally assumed, it is pointed out that a changer should not be allowed to interfere with hand manipulation, since for

purposes of study it is necessary to have freedom in the playing and replaying of certain parts of records. Because of the relation to the purchase of records, one should be aware that in general there are two types of changers. The drop, or fall, type plays the records in consecutive order, and the stack of records is turned over half way through the playing. The manual, or basket, type turns each record before playing the next. Albums are sold in this 1,2,3,4 and 1,4,2,3 fashion.

A real boon to the library which cannot afford a separate listening room or booths is the earphone player. Not only is it a convenient substitute for more expensive equipment, but it is also a valuable supplement, allowing patrons to listen to recordings which interest at the moment no one else. To quote Miller, "Several of these machines can be lined up on a long table or on individual stands with sufficient room to rest orchestral scores, and what is sacrificed in the reproduced ranges of the recording will be compensated for in comfort, privacy and concentration." (22) Some objection may be made as to sanitation, but so far it hasn't proved serious. If need be, a sort of tissue glove can be put on the earphone. Fragility is a danger, to which the answer is use of a rubber mat on the table, or rubber padding on the phones themselves. The latter device has proved unpopular, however. Sets available include the Paneyko and Gaylord machines.

There remains one phase of audio activities which should not be passed over without mention, though it is as yet in its early stages. This is, namely, magnetic recording. It is already performing a good service in speech and in music instruction. Magnetic recording involves passing thin steel wire or iron oxide coated paper tape through an area where sound waves are converted into magnetic impulses. The wire tape emerges magnetized with a pattern of impulses like the original sounds.

G. S. Dickinson makes the prophecy that discs belong to the present, metal tape recording belongs to the future. (23) He may be right. Certainly there are many advantages in magnetic recording. "Needles, needle scratch, breakage and wear are virtually eliminated. The recordings are permanent for as long as you care to keep them, and then, when their day of usefulness has passed, tape or wire can be erased and used over again." (24)

Conclusion

In bringing to a conclusion the theoretical and comparative study of the physical problems of music in the library, a few comments seem in order. In the first place, there has been no mention of the radio. There has been no intention to rule out the radio as part of the library audio facilities. It is rather a question of emphasis. Radio deserves a separate study since it involves a field as broad and technical as the phonograph, which was the central theme of this study.

A second comment relates to the ultimate usefulness of what has been written here. Reading and talking to many people produced in the writer a feeling of the transitory nature of the whole subject. Someone has said that we are now in the "battle of the discs". Manufacturers are vying with one another to see which can produce the most novel idea. New equipment -- and need for it -- is coming out more rapidly than the public can keep up. The danger seems to be that having invested today in expensive equipment, the librarian may find himself tomorrow with obsolete material. He must decide whether to take a chance and fulfill his need as best he can or to wait and see what will be the outcome of this transition.

Some help and comfort may be found in the advice of Frederick Ramsey, Jr., an authority in records. First he comforts the owner of the 78-speed machine by saying that with 15 million such turntables in American homes, the manufacturer is hardly likely for a long time to neglect that market. Victor itself, with its new 6-7/8 inch discs, hastens to assure the public that there is no intention of making the standard machines obsolete, and that 78-speed discs will continue to be cut. Mr. Ramsey asks the public to consider, however, the savings that can be made by conversion. The new discs of all kinds are sold at a 33% -- and sometimes 60% -- saving, which over a period of time will easily pay for the cost of the change-over.(25)

The writer, realizing that under present circumstances, a few weeks can invalidate much of what has been written here, can only say to the librarian, "Study the field carefully before buying any new equipment and be in no haste to purchase anything until this period of the evolution of recorded sound has found itself."

FOOTNOTES

(1)David W. Davies, "Audiovisual Materials," Library Buildings for Library Service, ed. by Herman H. Fussler (Chicago, ALA,1947), p. 89.

(2)Gladys S. Graves, "Brooklyn Finds That Men Are Heavy Borrowers," Library Journal,72 (May 15, 1947), p. 822.

(3)Roy D. Welch, "A Layman Speaks His Mind," Music Library Association Notes,3 (June, 1946), p. 244.

(4)Evelyn Perkins, "Some Impressions Concerning Recent Developments in Music Libraries in Colleges and Universities," Peabody Journal of Education, 6 (January, 1949), p. 234.

(5)George Sherman Dickinson, "The Living Library," Music Library Association Notes, 3 (June, 1946), p. 254.

(6)George M. Nixon, "Recording Studio 3A," RCA Review, 7 (December, 1946), p. 636-640.

(7)Lonsdale Green, Jr., and James Y. Dunbar, "Recording Studio Acoustics," The Journal of the Acoustical Society of America, 19 (May, 1947), p. 414.

(8)Philip L. Miller, "Audio-visual Matters; Some Findings on Sound Equipment," Music Library Association Notes, 5 (December, 1947), p. 54.

(9)"An Acoustical Problem Presented by a Store," Architect and Engineer, 144 (February, 1941), p. 32.

(10)Philip L. Miller, op. cit., p. 53.

(11)Lionel R. McColvin and Harold Reeves, Music Libraries, vol. 1 (London: Grafton & Co., 1937), p. 40.

(12)Barbara Duncan, "Music Isn't Books," Special Libraries, 31 (February, 1940), p. 58.

- (13)L. R. McColvin and Harold Reeves, op. cit., p. 42.
- (14)Evelyn Perkins, op. cit. p. 235.
- (15)Dorothy Esther Rowland, "Costly But Worth It," Library Journal, 72 (January 1, 1947), p. 89.
- (16)Paul Affelder, How to Build a Record Library (New York: E. P. Dutton & Co., Inc., 1947), p. 222.
- (17)Richard Graves, "Starting a School Record Library," The Journal of Education (London), 80 (August, 1948), p. 449.
- (18)Philip L. Miller, op. cit., p. 55.
- (19)Philip L. Miller, "Cataloging and Filing of Phonograph Records," Library Journal, 62 (July, 1937), p. 544.
- (20)Ibid., p. 544.
- (21)Ibid., p. 544.
- (22)Philip L. Miller, "Audio-visual Matters; Some Findings on Sound Equipment," Music Library Association Notes, 5 (December, 1947), p. 53.
- (23)George Sherman Dickinson, op. cit., p. 248.
- (24)William J. Elliott, "Throw Away Those Discs!" Library Journal, 73 (May 15, 1948), p. 754.
- (25)Frederick Ramsey, Jr., "An Analysis of 33-1/3, 45 and 78 RPM," Record Retailing, 12 (March, 1949), p. 14-17.

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